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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,689	08/11/2003	Yi-Chen Chang	10870-US-PA	1688

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JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE
7 FLOOR-1, NO. 100
ROOSEVELT ROAD, SECTION 2
TAIPEI, 100
TAIWAN

EXAMINER	
BODDIE, WILLIAM	
ART UNIT	**PAPER NUMBER**
2629	

NOTIFICATION DATE	DELIVERY MODE
06/08/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USA@JCIPGROUP.COM.TW

Office Action Summary	Application No.	Applicant(s)	
	10/604,689	CHANG ET AL.	
	Examiner	Art Unit	
	William L. Boddie	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-7 and 11-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-7 and 11-19* is/are rejected.

7)☒ Claim(s) *1 and 18* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In an amendment dated, March 7th, 2007 the Applicant traversed the rejections of claims 1-17, amended claims 1-2, 4-7, 11-14, cancelled claims 3 and 8-10 and finally added new claims 18-19. Currently claims 1-2, 4-7 and 11-19 are pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 7th, 2007 has been entered.

Response to Arguments

3. Applicant's arguments filed March 7th, 2007 have been fully considered but they are not persuasive.

On pages 8-11 of the Remarks, the Applicants have argued that Yanagisawa neither alone nor in combination with Dougherty teaches the newly amended claims. The Examiner respectfully disagrees. Evidence as to how the prior art discloses the currently claimed limitations is shown below.

Claim Objections

4. Claim 1 is objected to because of the following informalities: line 4 of the claim currently states, "displaying a color in visible light spectrum." This phrase is incorrect

grammatically, one possible means for correction is as follows, 'displaying a color in the visible light spectrum.' Appropriate correction is required.

Claim 18 is objected to because of the following informalities: line 3 of the claim states, "having at least two shadow pixel." This is incorrect grammatically, one possible means for correction is as follows; "having a least two shadow pixels." Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 18 recites the limitation "the invisible signals" in line 7. There is insufficient antecedent basis for this limitation in the claim.

7. Claim 19 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, both the first and second shadow pixels of claim 19 are required to longitudinally positioned. Thus it is unclear as to would be accomplished within the realm of the Examiner's understanding of the Applicants' invention. It appears as though the Applicants might have intended for one shadow pixel to be positioned longitudinally, and the additional shadow pixel be positioned latitudinally as claimed in claim 1.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1, 4, 6-7, 11, 13-16 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Yanagisawa et al. (US 2002/0046887).

With respect to claim 1, Yanagisawa discloses a pixel array (fig. 8 for example) for a non-touch panel input device (fig. 2), wherein the pixel array at least comprises a plurality of first pixel structures (32xi and 32xi+1 in fig. 8) with each pixel structure at least comprising:

a sub-pixel (display pixel in fig. 8), adapted for displaying a color in visible light spectrum (para. 45); and

a first strip-shaped shadow pixel (group of dots aligned along the y-axis in 32xi for example; each individual dot can be seen as an individual shadow sub-pixel; when combined they form a shadow pixel), longitudinally positioned on and extending along a first side of the sub-pixel (clear from fig. 8), wherein the first strip-shaped shadow pixel emits electromagnetic radiation either in a first electromagnetic radiation state or in a second electromagnetic radiation state (para. 103, disclose that the dot for a "0" can be a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states); and

a second strip-shaped shadow pixel pixel (group of dots aligned along the x-axis in 32xi for example), latitudinally positioned on and extending along a second side of the

sub-pixel (clear from fig. 8), wherein the second strip-shaped shadow pixel emits electromagnetic radiation either in a third electromagnetic radiation state or in a fourth electromagnetic radiation state such that the third and the fourth electromagnetic radiation state are different from each other (para .103, disclose that the dot for a "0" can be a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states),

wherein a position of the sub-pixel can be determined by detecting the first electromagnetic radiation state or the second electromagnetic radiation state of the electromagnetic radiation emitted from the first strip-shaped shadow pixel and the third electromagnetic radiation state or the fourth electromagnetic radiation state of the electromagnetic radiation emitted from the second strip-shaped shadow pixel (para. 85).

With respect to claim 4, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first shadow pixel in the first electromagnetic radiation state has a length or width different from the first shadow pixel in the second electromagnetic radiation state (para. 102, discloses the use of different widths and/or lengths of dots to encode information).

With respect to claim 6, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first shadow pixel in the first electromagnetic radiation state radiates with a wavelength different from the first shadow pixel in the second electromagnetic radiation state (para. 103, disclose that the dot for a "0" can be a different color than the "1" dot).

With respect to claim 7, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first shadow pixel in the first electromagnetic radiation state is fabricated using a material different from the first shadow pixel in the second electromagnetic radiation state (para. 103; different colors for 0's and 1's would require different inks in order to radiate different wavelengths of light).

With respect to claim 11, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the second shadow pixel in the third electromagnetic radiation state has a length or width different from the second shadow pixel in the fourth electromagnetic radiation state (para. 102, discloses the use of different widths and/or lengths of dots to encode information).

With respect to claim 13, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the second shadow pixel in the third electromagnetic radiation state radiates with a wavelength different from the second shadow pixel in the fourth electromagnetic radiation state (para. 103, discloses that the dot for a "0" can be a different color than the "1" dot).

With respect to claim 14, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the third electromagnetic radiation state is fabricated using a material different from the fourth electromagnetic radiation state (para. 103; different colors for 0's and 1's would require different inks in order to radiate different wavelengths of light).

With respect to claim 15, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the pixel array furthermore comprises a plurality of second pixel structures (32yj, 32yj+1 in fig. 8) with each second pixel structure at least having a sub-

pixel without a first shadow pixel (note the lack of y-direction dots in these structures) such that the sub-pixel in each second pixel structure is located in a position corresponding to the sub-pixel of the first pixel structure (seems clear from fig. 8 that the display pixels are located in the same position regardless of dot array used).

With respect to claim 16, Yanagisawa discloses, the pixel array of claim 15 (see above), wherein each second pixel structure furthermore comprises a second shadow pixel (x-direction dots in 32yj, 32yj+1) positioned on the other side of the sub-pixel corresponding to the second shadow pixel in the first pixel structure (56 in fig. 5c).

With respect to claim 19, Yanagisawa discloses, a non-touch panel input device (fig. 2) comprising:

a display panel (11 and 21 in fig. 2) having a pixel array, wherein the pixel array at least comprises a plurality of first pixel structures (fig. 8) with each pixel structure at least comprising:

a sub-pixel (display pixel in fig. 8), adapted for displaying a color in visible light spectrum (para. 45); and

a first strip-shaped shadow pixel (group of dots aligned along the y-axis in 32xi for example; each individual dot can be seen as an individual shadow sub-pixel; when combined they form a shadow pixel), longitudinally positioned on and extending along a first side of the sub-pixel (clear from fig. 8), wherein the first strip-shaped shadow pixel emits electromagnetic radiation either in a first electromagnetic radiation state or in a second electromagnetic radiation state (para. 103, disclose that the dot for a "0" can be

a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states); and

a second strip-shaped shadow pixel (group of dots aligned along the x-axis in 32xi for example), longitudinally positioned on and extending along a second side of the sub-pixel (clear from fig. 8), wherein the second strip-shaped shadow pixel emits electromagnetic radiation either in a third electromagnetic radiation state or in a fourth electromagnetic radiation state such that the third and the fourth electromagnetic radiation state are different from each other (para .103, disclose that the dot for a "0" can be a different color than the "1" dot, the use of different wavelengths is equivalent to different radiation states), and

a sensor (2 in fig. 1) suspended over the display panel (11 and 21 in fig. 1), wherein the sensor is adapted for remotely obtaining a location of the sensor relative to the display (para. 85, for example) by detecting the first electromagnetic radiation state or the second electromagnetic radiation state of the electromagnetic radiation emitted from the first strip-shaped shadow pixel and the third electromagnetic radiation state or the fourth electromagnetic radiation state of the electromagnetic radiation emitted from the second strip-shaped shadow pixel (clear from fig. 1).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2, 5, 12 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanagisawa et al. (US 6,965,377) in view of Dougherty et al. (US 6,076,734).

With respect to claim 2, Yanagisawa discloses, the pixel array of claim 1 (see above), wherein the first strip-shaped shadow pixel and the second strip-shaped pixel are fabricated using a material capable of producing electromagnetic radiation (para. 82).

Yanagisawa does not expressly disclose, wherein the electromagnetic radiation is in the invisible portion of the light spectrum.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

With respect to claims 5 and 12, Yanagisawa discloses, the pixel array of claim 1 (see above).

Yanagisawa does not expressly disclose, different reflectivities amongst the two radiation states.

Daugherty discloses, wherein the first and third electromagnetic radiation states have a reflectivity different from the second and fourth electromagnetic radiation states (col. 10, lines 16-32; discloses the measuring of the different reflected intensities of the different colored inks and using this measurement to decode the values).

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

With respect to claim 17, Yanagisawa discloses, the pixel array of claim 16 (see above), wherein the second shadow pixel is fabricated using a material capable of producing electromagnetic radiation (para. 82).

Yanagisawa does not expressly disclose, wherein the electromagnetic radiation is in the invisible portion of the light spectrum.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

With respect to claim 18, Yanagisawa discloses, a non-touch panel input device (fig. 2), comprising:

a display panel (11, 21 in fig. 2), comprising a plurality of pixel structures, at least some of the pixel structures each having at least two shadow pixel that are perpendicularly configured one to another (longitudinal and latitudinal rows of dots in fig. 8; para. 84), wherein the shadow pixels are capable of emitting signals containing located information (para. 103); and

a sensor (2 in fig. 1) suspended over the display panel (11, 21 in fig. 1), wherein the sensor is capable of receiving the signals from the shadow pixel to find the location information (clear from fig. 1) by which the location of the sensor relative to the display can be obtained (para. 85, for example).

Yanagisawa does not expressly disclose, wherein the signals emitted by the shadow pixels are invisible.

Dougherty discloses encoding data using a material capable of producing electromagnetic radiation in the invisible portion of the light spectrum (note IR1 in figs. 7 and 8, also col. 10, lines 33-45).

Dougherty and Yanagisawa are analogous art because they are both from the same field of endeavor namely, encoding information onto panel displays for sensing by a corresponding sensor.

At the time of the invention it would have been obvious to replace the dot color of Yanagisawa with the infrared color disclosed by Dougherty.

The motivation for doing so would have been to make the dots invisible to the user (Dougherty; col. 5, lines 35-37), thus not distracting the user from the image being displayed.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Wlb
5/17/07

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